ADVOCATES
FOR HIGHWAY
AND AUTO SAFETY

750 First Street, NE, Suite 901
Washington, DC 20002

May 31, 2002

Docket No. FHWA-2001-11130
U.S. DOT Dockets, Room PL-401
U.S. Department of Transportation
400 Seventh Street, SW
Washington, DC 20590

Work Zone Safety: Advance Notice of Proposed Rulemaking with Request for Comments, 67 FR 5532 *et seq.*, February 6, 2002

Advocates for Highway and Auto Safety (Advocates) submits the following comments in response to the request from the Federal Highway Administration (FHWA) for suggestions on how to improve the agency's and other transportation safety officials' response to the continuing problem of work zone safety crashes and casualties.

Although Advocates regards this advance notice of proposed rulemaking (ANPRM) as a well-intentioned action by the FHWA to engage the serious, ongoing issue of work zone safety, Advocates regards much of the emphasis of this notice to be misplaced. The most fundamental knowledge about work zone crash morbidity has yet to be captured by both federal, state, and local traffic engineers and other safety professionals. Until the basic proportions of the work zone safety problem are known, especially by means of indexing supposed work zone-related crashes producing property damage, deaths, and injuries to meaningful exposure measures, there is no reliable means of either judging the value and success of the manifold strategies currently applied to work zone safety or predicting the outcomes of future changes in various countermeasures.

Work zone safety in many ways has not evolved in concert with the tremendous expansion in reconstruction and rehabilitation work over the past 30 years and more, and basic techniques of temporary traffic control and other safety measures implemented for both construction and maintenance operations are not radically different from those used decades ago. Advocates is well aware of the lack of significant evolution of work zone safety countermeasure because its staff has been deeply involved in work zone safety for more than 25 years, and Advocates and its staff have been represented on the National Committee on Uniform Traffic Control Devices (NCUTCD) and served on the Work Zone/Temporary Traffic Control technical committee since the NCUTCD was formed more than 20 years ago. Prior to that official membership, Advocates' staff participated in the work of the previous National Advisory Committee on Uniform Traffic Control Devices since 1975.

Work zone traffic control measures for safety are hobbled by the most fundamental shortcomings of data and investigation. Current work zone traffic control safety measures are not the product of coherent, long-term research based on controlled data acquisition, but rather are a refined product of professional anecdotal experience that has been mostly enshrined as uniform devices and practices in the Manual of Uniform Traffic Control Devices (MUTCD). At the present time, there is no mandatory national work zone data collection system in operation and there is no uniformity in the data acquired by the FHWA from the states. Similarly, there are no consistent, operational definitions of 'work zone' that are used by either the FHWA, states, or researchers to acquire data relating to work zone traffic crashes and perturbations. Also, there are no exposure measures used to index work zone traffic crash experience to the length or duration of work zones. Taken together, these shortcomings are baseline failures of a rational system of monitoring and oversight for the purpose of formulating alternative strategies for addressing work zone safety defects in policy and practice. Although there is a number of total work zone-related fatalities reported each year for the nation, this number has no inherent reliability or meaningfulness for taking corrective actions because it is a variable and uncertain numerator without a denominator. All in all, the approach of work zone safety is not a completely rational enterprise and little science stands behind the choices mandated in Part VI of the MUTCD.

These chronic defects of work zone safety policy and practice cannot be corrected by the approach evidenced in this ANPRM. Refining an essentially formalized anecdotal approach to perceived work zone safety deficiencies, despite enforced national uniformity of practices and devices, cannot satisfactorily gain substantial ground in better work zone safety because the agency's view ignores the most basic principles of public health research and policy. No epidemiological methods, for example, of investigating the causes of work zone crashes and casualties are applied, including a complete lack of case-control study of work zone losses. Other basic research designs using in-depth case analyses for calculating either relative or absolute risks, or for preliminary identification of consistent correlations that can be tentatively termed the causes of work zone crashes, have not been used by the FHWA. For example, no effort to apply the methodology of the Indiana Tri-Level study of traffic crash causation has been mounted at either the federal or state levels.[1]

Without adherence to the most fundamental scientific protocols of problem definition, data collection and analysis, and research design, Advocates is convinced that the problem of work zone safety will continue to be dealt with by measures and the use of scarce public funds that essentially amount to running in place. Although Advocates regards the formulation and application of current temporary traffic control practices as a

---

[1]See J.R. Treat *et al.*, *Tri-Level Study of the Causes of Traffic Crashes: Final Report, Volume I – Causal Factor Tabulations and Assessments*, Institute for Research in Public Safety, Indiana University, May 1979. Also see F. Haight, *Review of Methods for Studying Pre-Crash Factors*, The Highway Safety Research Center, University of North Carolina, DOT HS-802 056, 1976; and K. Perchonok, *Accident Cause Analysis*, Cornell Aeronautical Laboratory, Inc., DOT HS-053 1 109, 1972.

craft with important and often positive effects on safety, those effects are not scientifically investigated, understood, or managed. Unless the FHWA is prepared to institute a paradigm shift in how work zone safety is studied and policies adopted on the basis of rigorous data collection and peer-reviewed research findings, there is little prospect that future highway losses assigned to work zones will materially change given predictable increases in the number of work zones, vehicles, and miles traveled.

Respectfully submitted,

Gerald A. Donaldson, Ph.D.
Senior Research Director